

What Is Claimed Is:

1 1. A driving circuit for an optical modulator,
2 comprising:
3 a first transistor coupled to a first input terminal and
4 a current source;
5 a second transistor coupled to the first transistor, the
6 current source, and a second input terminal, wherein
7 the current source is coupled to a connection point
8 of the first transistor and the second transistor;
9 a third transistor coupled to the first transistor in
10 serial and coupled to a first current source, wherein
11 the first current source is coupled to a connection
12 point of the first transistor and the third
13 transistor;
14 a fourth transistor coupled to the second transistor in
15 serial and coupled to a second current source,
16 wherein the second current source is coupled to a
17 connection point of the second transistor and the
18 fourth transistor;
19 a first feedback circuit coupled to the third transistor,
20 wherein the first feedback circuit comprises a first
21 low frequency feedback circuit and a first high
22 frequency feedback circuit coupled to the first low
23 frequency feedback circuit; and
24 a second feedback circuit coupled to the fourth transistor,
25 wherein the second feedback circuit comprises a
26 second low frequency feedback circuit and a second
27 high frequency feedback circuit coupled to the second
28 low frequency feedback circuit.

1 2. The driving circuit for an optical modulator as
2 claimed in claim 1, wherein the first low frequency feedback
3 circuit comprises a first resistor, and a second resistor
4 coupled to the first resistor and a reference voltage.

1 3. The driving circuit for an optical modulator as
2 claimed in claim 1, wherein the first high frequency feedback
3 circuit comprises a first capacitor, and a collector-base
4 capacitor coupled between the collector and base of the third
5 transistor.

1 4. The driving circuit for an optical modulator as
2 claimed in claim 1, wherein the second low frequency feedback
3 circuit comprises a third resistor, and a fourth resistor
4 coupled to the third resistor and a reference voltage.

1 5. The driving circuit for an optical modulator as
2 claimed in claim 1, wherein the second high frequency feedback
3 circuit comprises a second capacitor, and a collector-base
4 capacitor coupled between the collector and base of the fourth
5 transistor.

1 6. The driving circuit for an optical modulator as
2 claimed in claim 1, wherein the third transistor is coupled to
3 a fifth transistor in serial, the fourth transistor is coupled
4 to a sixth transistor in serial, the fifth transistor is coupled
5 to a third feedback circuit comprising a third low frequency
6 feedback circuit and a third high frequency feedback circuit
7 coupled to the third low frequency feedback circuit, and the
8 sixth transistor is coupled to a fourth feedback circuit
9 comprising a fourth low frequency feedback circuit and a fourth

10 high frequency feedback circuit coupled to the fourth low
11 frequency feedback circuit

1 7. The driving circuit for an optical modulator as
2 claimed in claim 6, wherein the third low frequency feedback
3 circuit comprises a fifth resistor, and a sixth resistor coupled
4 to the fifth resistor and a reference voltage.

1 8. The driving circuit for an optical modulator as
2 claimed in claim 6, wherein the third high frequency feedback
3 circuit comprises a third capacitor, and a collector-base
4 capacitor coupled between the collector and base of the fifth
5 transistor.

1 9. The driving circuit for an optical modulator as
2 claimed in claim 6, wherein the fourth low frequency feedback
3 circuit comprises a seventh resistor, and an eighth resistor
4 coupled to the seventh resistor and a reference voltage.

1 10. The driving circuit for an optical modulator as
2 claimed in claim 6, wherein the fourth high frequency feedback
3 circuit comprises a fourth capacitor, and a collector-base
4 capacitor coupled between the collector and base of the sixth
5 transistor.

1 11. The driving circuit for an optical modulator as
2 claimed in claim 6, wherein the third low frequency feedback
3 circuit is coupled to the first low frequency feedback circuit,
4 and the fourth low frequency feedback circuit is coupled to the
5 second low frequency feedback circuit.

1 12. A driving circuit for an optical modulator,
2 comprising:

3 a first transistor coupled to a first input terminal, a
4 first reference current source and a first resistor
5 coupled to a reference voltage;

6 a second transistor coupled to the first transistor, the
7 first reference current source, a second input
8 terminal and a second resistor, wherein the first
9 reference current source is coupled to a connection
10 point of the first transistor and the second
11 transistor, and the second resistor is coupled to the
12 reference voltage;

13 a third transistor coupled to the first input terminal and
14 a second reference current source;

15 a fourth transistor coupled to the second input terminal,
16 the third transistor and the second reference current
17 source, wherein the second reference current source
18 is coupled to a connection point of the third
19 transistor and the fourth transistor;

20 a fifth transistor coupled to the third transistor in
21 serial and coupled to a first current source and a
22 first high frequency feedback circuit, wherein the
23 first current source is coupled to a connection point
24 of the third transistor and the fifth transistor; and

25 a sixth transistor coupled to the fourth transistor in
26 serial and coupled to a second current source and a
27 second high frequency feedback circuit, wherein the
28 second current source is coupled to a connection

29 point of the fourth transistor and the sixth
30 transistor.

1 13. The driving circuit for an optical modulator as
2 claimed in claim 12, wherein the first high frequency feedback
3 circuit comprises a first capacitor, and a collector-base
4 capacitor coupled between the collector and base of the fifth
5 transistor.

1 14. The driving circuit for an optical modulator as
2 claimed in claim 12, wherein the second high frequency feedback
3 circuit comprises a second capacitor, and a collector-base
4 capacitor coupled between the collector and base of the sixth
5 transistor.